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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/976,181 | 10/12/2001 | George E. Smith | 10003802-1 | 1946 |

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
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Loveland, CO 80537-0599

EXAMINER

SPECTOR, DAVID N

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2873

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,181

Applicant(s)

SMITH, GEORGE E.

Examiner

David N. Spector

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2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14 is/are rejected.
- 7) ☒ Claim(s) 9-13 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: DETAILED ACTION

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Suzuki et al. (US-4421398-A).

(a) In regard to independent claim 1, Suzuki discloses a lens structure (*e.g. a microlens array used as a focusing plate in a single-reflex camera*) comprising a surface devoid of cusps that includes a seamless profile (col. 2, ln. 14-20); wherein the surface includes a plurality of convex elements and concave elements (col. 4, ln. 15-21); wherein the convex elements are clearly seen to include a positive surface curvature area, and further wherein the concave elements includes a negative surface curvature area (col. 6, ln. 47-60), as can clearly be seen from **FIG. 7** (*e.g. the convex/positive and concave/negative areas for $-\pi < x < \pi$ and $\pi < x < 2\pi$, respectively*). Independent claim 1 is therefore clearly anticipated by Suzuki et al.

(b) In regard to claim 2, Suzuki et al. discloses a lens structure having all of the features/limitations of applicant's independent claim 1, from which claim 2 depends. Suzuki et al. further discloses a lens structure comensurate with independent claim 1 wherein the cells include alternating convex elements and concave elements, as clearly shown in **FIG. 3** and **6**, therein. Claim 2 is therefore clearly anticipated by Suzuki et al.

(c) In regard to claim 3, Suzuki et al. discloses a lens structure having all of the features/limitations of claim 2, from which claim 3 depends. Suzuki et al. further

discloses a lens structure comensurate with claim 2 wherein each cell has a rectangular shape, as clearly shown in **FIG. 6**, therein. Claim 3 is therefore clearly anticipated by Suzuki et al.

(d) In regard to claim 4, Suzuki et al. discloses a lens structure having all of the features/limitations of claim 2, from which claim 4 depends. Suzuki et al. further discloses a lens structure comensurate with claim 2 wherein each cell has a hexagonal shape, as clearly shown in **FIG. 3**, therein. Claim 4 is therefore clearly anticipated by Suzuki et al.

(e) In regard to claim 5, Suzuki et al. discloses a lens structure having all of the features/limitations of claim 1, from which claim 5 depends. Suzuki et al. further discloses a lens structure comensurate with independent claim 1 wherein the surface has a continuous wave structure, as clearly shown in **FIG. 3** and **6**, therein. Claim 5 is therefore clearly anticipated by Suzuki et al.

(f) In regard to claim 6, Suzuki et al. discloses a lens structure having all of the features/limitations of claim 2, from which claim 6 depends. Suzuki et al. further discloses a lens structure comensurate with claim 2 wherein each cell includes at least two orthogonal waves as clearly shown in **FIG. 6**, therein. Claim 6 is therefore clearly anticipated by Suzuki et al.

(g) In regard to claim 7, Suzuki et al. discloses a lens structure having all of the features/limitations of claim 2, from which claim 6 depends. Suzuki et al. further discloses a lens structure comensurate with claim 2 wherein each cell includes at least three orthogonal waves that are separated by 120 degrees, as clearly shown in **FIG. 3**, therein. Claim 7 is therefore clearly anticipated by Suzuki et al.

(h) In regard to claim 8, Suzuki et al. discloses a lens structure having all of the features/limitations of independent claim 1, from which claim 8 depends. Suzuki et al. further discloses a lens structure comensurate with claim 1 wherein the lens structure includes a plurality of close packed hexagonal array of lenslets that include near circular

symmetry, as clearly shown in **FIG. 3**, therein. Claim 8 is therefore clearly anticipated by Suzuki et al.

(i) In regard to claim 14, Suzuki et al. discloses a lens structure having all of the features/limitations of independent claim 1, from which claim 14 depends. Suzuki et al. further discloses a lens structure comensurate with claim 1 wherein the surface profile includes one of a plurality of circular arcs and a plurality of sinusoids, as clearly shown in **FIG. 3**, therein. Claim 14 is therefore clearly anticipated by Suzuki et al.

Allowable Subject Matter

3. Claims 16-20 are allowable. Claims 9-13 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Claim 16-20 are distinguished by a surface which produces a controlled amount of under-corrected spherical aberration and over-corrected spherical aberration. Claims 18-20 are further distinguishes by a surface that includes at least a first region for producing under-corrected spherical aberration and at least a second region for producing over-corrected spherical aberration. Claims (amended) 9-13 and 15 (*e.g. if rewritten in independent form including all of the limitations of the base claim and any intervening claims*) would be distinguished over the prior art made of record by the individual features/limitations expressly recited in claims 9-13 and 15, as originally filed.

Other Remarks/Information

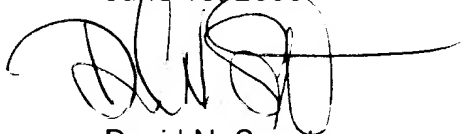
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Inventions comprising, inter alia, each and all of the features/limitations recited in independent claim 1, and in claims 2, 3, and 5 of the instant application (*e.g. a lens structure comprising a surface devoid of cusps that includes a seamless profile, wherein the surface includes a plurality of convex elements and concave elements, wherein the convex/concave elements include a positive/negative*

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surface curvature area as recited in claim 1; and further, the lens structure further comprising a plurality of cells, where the cells include an array of alternating convex/concave elements, as recited in claim 2; and further, wherein each cell includes a rectangular shape, as recited in claim 3; and finally, wherein the surface includes a continuous surface, as recited in claim 5) are also disclosed in Gotoh et al. (US-552760-B1); Tanaka (US-6212012-B1); Kelly (US-6115181-A); Yoshida et al. (US-5400114-A); and Makhailov (WO 03/016963-A2). The instant application was published as Smith (US-2003/0072083-A1).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Spector whose telephone number is (703) 305-1521. The examiner can normally be reached at this number Monday through Friday between 6:00 AM and 2:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps, can be reached on (703) 308-4883. The fax number for the organization where this application is assigned is (703) 308-7722.

June 13, 2003



David N. Spector
Primary Examiner